

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING:

For a fuller understanding of the present invention, reference is made to the following detailed description taken in conjunction with the accompanying drawing figures wherein like reference character denote corresponding parts throughout the several views and wherein:

FIG. 1 depicts the access node configuration;

FIG. 2 shows DNS resolution;

FIG. 3 shows dial access;

FIG. 4 shows how services are accessed;

FIG. 5 depicts the network design of the ensoBox;

FIG. 6 depicts the network design of the Core Node;

FIG. 7 depicts the network design of the Access Node;

FIG. 8 depicts the network design of the Services Node;

FIG. 9 shows the Core Node rack configuration;

FIG. 10 shows the Access Node rack configuration;

FIG. 11 shows the Services Node rack configuration;

DETAILED DESCRIPTION OF THE INVENTION:

ensoBox™ Overview

The ensoBox™ provides ISP Franchise subscribers with dial-up access to the Internet, features and functionality that are characteristic of ISPs, a suite of services including a Web Portal, email, web hosting, chat, news, and anonymous FTP, and access to the Internet (browsing the WWW). It also supplies an ISP Franchise owner with back office management software known as ensoOS™ that is required of an ISP to properly service and manage its subscriber base. ensoOS™ client software is installed on the ensoBox™, but is dependent on applications that are hosted at the ensoport.com™ data center. The data center is the home to the ensoOS™ Applications Infrastructure, which is responsible for all back office support for enoport.com™, Inc, and the ISP Franchises.

Refer to the ensoOS™ Technical Description for more details on ensoOS™ and Applications Infrastructure.

The ensoBox™ is comprised of three modular nodes referred to as the Core Node, Access Node, and Services Node. Each node performs a specific function and is dependent on one another to support all of the ISP features, functionality, and services offered by the ensoBox™. The ensoBox™ can be installed almost anywhere in the world, as long as there is proper power and facilities to meet the

ensoBox™ environmental requirements (refer to the ensoBox™ Site Requirements Document for specific details). The basic Digital T1⁴ configurations support between 4,000 and 8,000 subscribers. The basic Digital E1⁵ and Analog P1⁶ configurations support between 5,000 and 10,000 subscribers. The ensoBox can be scaled to support up to 50,000 subscribers by adding Remote Access Servers (Cisco AS5300) to the Access Node.

The ensoBox™ currently provides dial-up access to services and the Internet only. Subscribers can connect to the ensoBox™ via a 56 Kbps analog phone line. In the future, the ensoBox™ will offer ISDN, high speed DSL, and wireless access. Subscribers are identified by a unique userid/password combination and are required to supply that information each time a dial up session to the ensoBox™ is established. All subscribers have access to a web portal, email, web hosting, chat, news, and anonymous FTP. In the future, ISP Franchises will be able to offer pay services (above the standard pricing) for services such as video conferencing, games, etc.

Figure 1 is a high level depiction of the ensoBox™, its nodes, and its components.

⁴ A standard ensoBox™ access node can be configured with 8, 12, or 16 T1s and is known as the ensoBox™ Access Node T1 Digital 1000, ensoBox™ Access Node T1 Digital 1500, or ensoBox™ Access Node T1 Digital 2000 respectively.

⁵ A standard ensoBox™ access node can be configured with 8, 12, or 16 E1s and is known as the ensoBox™ Access Node E1 Digital 1000, ensoBox™ Access Node E1 Digital 1500, or ensoBox™ Access Node E1 Digital 2000 respectively.

⁶ A standard ensoBox™ access node can be configured with 240, 360, or 480 analog modems and is known as the ensoBox™ Access Node P1 Analog 1000, ensoBox™ Access Node P1 Analog 1500, or ensoBox™ Access Node P1 Analog 2000 respectively.

ensoBox™ Scalability

The ensoBox™ is engineered using a modular approach to make scalability an easy task. It is comprised of nodes that serve a specific purpose. One node, the Access Node, is responsible for Internet access. A second node, the Core Node, is responsible for routing, security, data storage, and data backup. The third node, or Services Node, is responsible for offering services.

What makes the ensoBox™ scalable is the fact that new services and features can be added with the addition of a new node. For example, the current Access Node supports only dial access. Future versions of the ensoBox™ will support dedicated access via a Dedicated Access Node, high-speed access (DSL) via a High Speed Access Node, and e-Commerce services through the addition of an e-Commerce Services Node. As new technologies are introduced, the ensoBox™ can be scaled to implement those new technologies with the addition of a new node.

The Access Node and Services Node are both connected to the Core Node using redundant Fast Ethernet (100 Base-TX) connections. Additional nodes are connected to the Core Node using redundant Fast Ethernet (100 Base-TX) connections as well.

This kind of system architecture allows the ensoBox™ to always be a state-of-the-art ISP appliance. A modular design allows ISP Franchises to upgrade hardware and software, while simultaneously phasing out the old technology. For example, as the ISP Franchise expands and its subscriber base grows from 10,000 users to 100,000 users, it may be feasible to add a more high-powered, process-intensive Core Node that is comprised of upgraded routers, switches, and servers. However, this new node can operate simultaneously with the old Core Node. This gives the ISP Franchise the flexibility to phase in the new Core Node and slowly phase out the old Core Node, or have both nodes operate in a primary/secondary fashion where the old Core Node can become a backup option to the new Core Node. This is just one example of the flexibility the ensoBox™ offers an ISP Franchise, as many other upgrade scenarios can be accommodated.